GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

STARRED QUESTION NO:80
ANSWERED ON:05.03.2002
PROMOTION OF SCIENCE AND TECHNOLOGY
AVSM, BRIG.(RETD.) KAMAKHYA PRASAD SINGH DEO

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) Whether the Government have sponsored any Central scheme to promote Science and Technology in each State;

(b) If so, the State-wise achievements made under the scheme, particularly in Orissa during the last three years; and

(c) The funds allocated by the centre for the purpose during the said period, year-wise?

Answer

MINISTER OF HUMAN RESOURCE DEVELOPMENT, MINISTER OF SCIENCE AND TECHNOLOGY & MINISTER OF OCEAN DEVELOPMENT (DR. MURLI MANOHAR JOSHI)

(a) Yes, Sir. The Government promotes Science and Technology in States through various schemes such as state councils for science & technology, science and technology communication and popularisation, science and technology entrepreneurship development, science & society programmes, special component plan for the development of scheduled castes and tribal sub-plan.

(b) These schemes have contributed in the fields of science popularisation, entrepreneurship development, remote sensing, power generation and energy conservation, environment and ecology, biotechnology, science & technology based development in most of the States including Orissa.

(c) The funds allocated for these schemes are Rs. 22.50 crores, Rs. 28.00 crores and Rs. 24.40 crores for the years 1998-99, 1999-2000 and 2000-2001 respectively.

Contents of Note for Supplementaries for the Lok Sabha Starred Question No 80 to be answered on 5th March, 2002 (20th Position).

S.No Contents Annexe.No

1. Background Note on the Question 1

2. Statement on Grant-in-Aid sanctioned/released to various States under State S&T Councils Programme 2

3. Plan Outlay for S&T in the State Plan 3

4. Background Note on Assistance for Development of State Councils for Science and Technology 4

5. Note on Significant Achievements made under State Councils Programme 5
6. Activities of State S&T Councils / Departments 6

7 Activities of Orissa State S&T Council / Department 7

Annexe-4

ASSISTANCE FOR DEVELOPMENT OF STATE COUNCILS FOR SCIENCE & TECHNOLOGY

BACKGROUND NOTE

I. GENESIS:
In order to encourage and promote science and technology activities in the States and UTs, the Department of Science and Technology during the 6th Plan launched a scheme entitled `Assistance for Development of State Councils on Science and Technology`. The main objective of the scheme was to assist all the States/UTs to set up State Councils on Science and Technology which in turn could act as focal fora for formulation, planning, coordination and promotion of S&T activities within their respective States. They were also expected to help in preparing State S&T plans, compilation and dissemination of S&T information and popularisation of Science.

The initiative to establish State Councils for Science & Technology was first taken in 1971 when the then Minister for S&T and Chairman, National Council for Science & Technology (NCST), Shri C Subramanium wrote to Chief Ministers of all the States stressing that irrespective of large investments of the Central Government in S&T in various sectors and institutional infrastructure, the Central S&T Agencies must take the States along if the development goals are to be attained. By the end of Fifth Five Year Plan, Karnataka, Kerala, Uttar Pradesh and West Bengal were the four States, who had established their State S&T Councils. While these few States responded to the idea of State S&T planning & promotion, it became clear that a sustained effort was needed to establish and develop the State Councils for Science & Technology.

As a result, the process of impetus for State level planning and Promotion of Science & Technology began in the Sixth Five Year Plan (1980-85) and continued through the subsequent Five Year Plans.

II. CURRENT STATUS:

As a result of catalytic role played by DST and support received from the Planning Commission and States/UTs, a stage has reached when State Councils have been set-up in all the States and UTs. Several States have also formed a separate Department of Science & Technology and /or S&T Secretariat. These State Councils are normally chaired by Chief Ministers of respective States or by an eminent scientist. All States and Union Territories by now have established their State level S&T structures and formulated their Five Year and Annual S&T plans.

The Department of Science & Technology (DST), GOI, played a catalytic role by facilitating the State Governments in establishing and developing the State Councils on S&T and by providing support for their technical secretariats. Concurrently DST (GOI), in collaboration with respective State Councils, organized all India thematic seminars/workshops whose recommendations helped identify some activity-areas for promotion by the State Councils. DST also organised periodic review meetings to discuss the status of various S&T programmes and to plan the strategy for future. Regional Meetings organised by DST facilitated review of state S&T structures and identification of areas of mutual cooperation between States.

On completion of 10 years (1981-91) of this programme, a Decennial Review was held (July 1992) to assess the strengths and weaknesses of this programme vis-Ã -vis DST`s performance.This review had desired a phase change geared towards programmatic support and strengthening linkages between State S&T Councils and Central S&T Agencies by suitably dovetailing various programmes as State S&T Councils with those of Central S&T Agencies.

It was also realised that these State Councils, since their formation have now come of age to initiate a phase where resources in terms of expertise and technology promoted and generated by the Central and State S&T Agencies be pooled together to undertake joint S&T programmes.

III. DST`s ACTIVITIES:

DST has been playing a catalytic role and advising the States right from aspects connected with the organisation of the councils to the stage of identification, formulation and implementation of the state level S&T programmes. This has been done through:

• establishing close linkages with Planning Commission,other S&T agencies and the States/Union Territories by having constant dialogues and visits.

• providing information about the various programmes of the central S&T agencies, relevant to the development of the states, to all the States and Union Territories.

• holding discussions with S&T representatives of individual States and Union Territories on specific S&T activities to be taken up by them and providing inputs on similar activities of other State Councils.

• holding annual All India thematic workshops/meetings on the role of State Councils in specific areas of S&T.

• holding periodic review meetings with State S&TSecretaries and Heads of State Councils to discuss the status of various S&T programmes and to plan the strategy for future.

• holding Regional level meetings to review and discuss the status of the existing State level S&T structures, identification of areas of mutual cooperation between States/Uts of the respective regions as well as the recruitment/deployment of technical secretariat thereof.

• active participation in the meetings of the State Councils and their executive committees organised by State S&T Councils.

• active participation in State Annual Plan and Five Year Plan discussions held by Planning Commission underits working group on `Scientific Services and Research: (now separated as `S&T Sector`) for all the States and Union Territories.

• giving financial support for setting up/strengthening of S&T secretariats; State level S&T seminar/workshops; etc.

IV. Activities undertaken by State Councils :

• Formation of S&T Secretariats for helping the StateCouncil in identifying, evolving, coordinating and implementing the S&T programmes;

• S&T for rural development through appropriate technology;

• S&T for women for improving the life and status of women through training programmes with S&T inputs and to provide opportunities for income generation;

• Programmes for young scientists to provide them encouragement for participating in S&T programmes through Research Projects, International Travel, Seminars/Symposia;

• S&T based entrepreneurship development programmes to promote entrepreneurship among the S&T personnel for generation of mass employment;

• Popularisation of Science and stimulation of scientific and technological temper among people;

• Application of Remote Sensing for resources survey and creation of necessary infrastructure;

• Support for need based location specific R&D projects;

• Development of non-conventional energy sources for conservation of energy through S&T inputs;

• Programmes on Environment and Ecology relevant to the development of the States;

• Setting up of new S&T institutions at State level,wherever necessary to stimulate development programmes in the State through application of S&T;

• Setting up computer based information systems for S&T.

• Coordination with other development departments for generating programmes requiring S&T inputs and identification of S&T component in key sectors;

• Holding of State level S&T seminars, workshops etc.

V. DST organised Meetings of State S&TCouncils/ Departments In order to continue the tempo of application of Science and Technology in the States and to provide special attention to this activity, the DST, Government of India, has been organising:

• All India thematic meetings so as to give an opportunity to the States to not only exchange experiences in various branches of S&T being pursued at the State level but also to gain first hand information about the programmes of the Central Government which were of direct relevance to the development of the States and also exchange experiences with other State governments (11 meetings held).

• All India Review meetings to discuss and understand the S&T activities implemented by all the States and Union Territories under the various Annual and Five Year Plans; operational issues as well as key policy issues for future plan of action (5 meetings held).
• Regional level meetings to review and discuss the status of the existing State level S&T structures, recruitment/deployment of Technical Secretariat as well as identification of areas of mutual cooperation between the States and Uts in the respective regions (10 meetings held).

VI. State S&T Newsletters For regular flow of information amongst various State Councils and UTs on their important S&T activities including demonstration projects, S&T newsletters have been supported by DST:

VII. Core and Project Support :

Under this programme, DST has been providing financial assistance to various State S&T councils for setting up and strengthening of professional S&T secretariat, organising State level S&T Seminars and Workshops, specific demonstration projects of interest to other states etc. DST is also assisting the various States and UTs by funding specific projects under its other promotion programmes such as Popularisation of Science, Entrepreneurship Development, Natural Resources DataManagement Systems (NRDMS) Mini-micro hydel projects and Science & Society related schemes. These projects are being funded either through the State S&T councils or voluntary organisations engaged in S&T activities.

Further, in order to consolidate various S&T activities of State S&T Councils geared towards location specific, need based research and technology development projects during 9th Plan period as well as various mechanisms to be initiated, a review and assessment of the past activities was held with a view to project various S&T activities to be undertaken by the States during the 9th Plan; quantification of resources required for 9th Plan and expectations of States from Central S&T Agencies including DST and Planning Commission and vice versa.The deliberations of the review meeting helped DST in preparingan `Approach Paper` on State S&T Councils Programme for the 9th Five Year Plan. Department has as taken initiative in mobilising proposals following aproactive approach during the 9th Five Year Plan and the results are quite encouraging. So far around 200 projects have been received and around 60 projects have been supported under the broad areas as enumerated in the following section . For the purpose, a Project Evaluation Group has been constituted and 15 meetings have been held. Three Group Monitoring Meeting have also been held to review the on-going projects

VIII State S&T Councils - An Assesment

It must be admitted that not all the state S&T councils are as effective and efficient as was enviaged in the original letter of Shri C Subramaniam. It is a recognition of the fact that the role S&T can play in development is rather difficult to crystalise and even more difficult to implement. While the process of planning of S&T in the States was initiated in the sixth Plan, major efforts started effectively during the seventh plan when S&T plans were formulated by most of the States and Union Territories as an integral part of their overall socio-economic plan. The Seventh , Eighth and Ninth Plan outlay clearly indicated a commitment of the State Governments for S&T activities and showed an impact of the role played by the Planning Commission and DST in the development and promotion of S&T at the state level.

The concept of State S&T Councils is the basis of a decentralised planning approach for application of S&T for development. The State level machinery has to take the role of a major `prime mover` while the Centre could play a very catalytic and effective role in encouraging this initiative of the State governments. Planning Commission during the last few Five Year Plans has given the correct direction to the Planning process by emphasising S&T planning under the decentralised mode. It is hoped that with the increased State S&T outlay expected during Tenth Five Year Plan, the state governments would be able to bring about rapid socio-economic development through the dynamic tool of science and technology. To supplement State governments efforts, a strong mandate is necessary for the central scientific agencies to liaise and work with the State S&T councils/departments on a regular basis and they must consider ways by which they can contribute to regional development programmes through the State Councils/Departments.

IX. RECENT INITIATIVES

The beginning of Programmatic Support under the scheme in the Ninth Plan addressed itself to the need felt during Eighth Plan to accelerate S&T activities at the State level so as to ensure integration of S&T for overall socio-economic development with special emphasis on Location Specific Research & Technology Development, Adaptation and Transfer, S&T studies/surveys and information exchange & experience sharing on specific S&T programmes.

• S&T Studies & Surveys :

This includes support for carrying out S&T studies / surveys including techno-economic analysis, simulation modeling and studies etc; and development of State S&T database, S&T resources; State S&T policy issues; specific status reports etc: The activities under this head should lead to specific action plan for project generation.

• Location specific research & technology development :

Support for identifying/ projectising S&T programmes and for development oriented location specific research and technology development.

• Pilot scale demonstration projects:

Pilot scale demonstration projects including field trials etc based on technologies developed by Central S&T Agencies/ Labs/ Institutions etc. relevant to the State needs.
• Replication of success models:

Replication of successful projects/programmes in other interested States based on successful experiences of a State S&T Council/ State S&T Institute/ NGOs etc.

• Joint Programming:

To evolve and support certain joint programmes focussing on multi-sectoral area based approach to rural/ regional development in cooperation with multiple State & Central Institutions, NGO`s and State S&T Councils. These areas should be so identified where S&T intervention could significantly improve the existing socio-economic conditions.

• Information exchange & experience sharing :

This would include meetings/ workshops and other means of information exchange and interaction of S&T experts and / or of S&T field activists etc: Workshops on dissemination of specific technology, Project/programme formulation workshops.

• Awareness & Training:

Awareness and Training on specific innovative technologies/packages developed/ propagated by State S&T department/ Council requiring special S&T inputs and also on specific S&T topics/themes and management of State S&T programmes.

X. ACHIEVEMENTS

The scheme has numerous objectives aimed at upliftment of social-economic conditions of the masses through application of Science & Technology. DST effort, though catalytic, had served a very important purpose of establishing State S&T structures and gearing up these structures to assume the role of a prime mover in planning and implementing S&T activities. State S&T Councils and DST are now initiating programmes where resources and technologies are being pooled together to have visible impact. In addition to support for setting up and strengthening S&T structures and facilitating information exchange, support was initiated for demonstration projects, replication projects and S&T studies & surveys. Few major achievements are highlighted below :

1. State S&T Councils in States

- State S&T structures set up in all the States including the three newly constituted States .
- Catalytic core support provided to State S&T Councils in all the States to ensure requisite S&T capabilities for implementing State S&T programmes
- Support initiated to S&T Councils in Sikkim, Nagaland and Andaman & Nicobar Islands during 9th Plan
- Initiated efforts for professional development of S&T manpower in State S&T Councils

2. State S&T Plans and portfolio of S&T activities:
Catalysed formulation of S&T plans and identification of S&T activities through :
- Participation in General Body/ Executive Committee Meeting
- Participation in Planning Commission Working Group on `S&T Sector`
- All India Thematic Meetings on State Oriented Programmes of Central S&T Depts/Agencies

3. Linkages of councils with Central S&T Departments/ Agencies Strengthened linkages of councils with Central S&T Departments/ Agencies in the areas of :

- Science Communication programmes
- S&T Entrepreneurship development
- Natural Resource Data Management System and GIS
- Societal and Rural development oriented S&T programmes
- Bio-Technology programmes
- Remote Sensing Programmes
- Non conventional energy and energy conservation programmes
- Environmental programmes

4. Demonstration Projects

- Micro Hydel Projects initiated at Nagaland, Manipur and Sikkim
- Reverse Osmosis Plants being set up for hard/ brackish/ saline water in Rajasthan, Gujarat and A&N Islands.
- Mentha Distillation Plants being set up in U.P.
- Upliftment of small and marginal farmers being achieved through application of hydrams in H.P.

5. Location specific R&D and Technology Development
- All India thematic Meeting on `S&T in Location Specific Research` organised to give special impetus to this area.
- Location Specific R&D projects on sustainable cropping of Ginseng in Manipur and control of poultry diseases at Namakkal, Tamilnadu initiated.
- Technology Development projects on energy efficient cardamom drier at Sikkim and development of fishing crafts and gears for the wetlands of Manipur.

6. Replication of success models
- Pollution Control Units for Cupola Furnaces being set up at U.P. and Bihar.
- Solar Passive Demonstration Unit supported at Manipur
- Development of manual to replicate SuTRA (Sustainable Transformation of Rural Areas) programme of IISc and Karnataka State S&T Council .

7 S&T Studies and Surveys
- Studies on fishing crafts and gears in Manipur led to development of improved prototypes of fishing crafts and gears.
- `Atlas of location Specific Problems` in Assam prepared.
- Pilot studies on low cost water filter completed.

8. Jai Vigyan Science & Technology Mission entitled `Area Development Mission for Andaman & Nicobar Islands through Science & Technology.`

- 12 projects identified under the broad areas of HRD, Fisheries, Medicinal plants, Housing, Energy, Food processing, Water management and environment in view of the specific requirements of A&N Islands.
- Project on Bio-diversity in A&N Island initiated.

9. Information Exchange
- State S&T Newsletter SNAPSHOT published to promote horizontal information exchange and disseminate success stories.
- All India Thematic Meeting to sensitise State S&T Councils about programmes of Central Government and to exchange experiences in programmes pursued at State level
- All India Review meetings to discuss S&T programmes, operational issues and key policy issues.
- Regional Meeting of State S&T Councils to identify ares of mutual cooperation
- Web site of State S&T Councils prepared

XI FUTURE THRUST

The following activities are proposed to be initiated/continued during the coming years.

• Core support to professional S&T secretariat to all State S&T Councils with focus on strengthening S&T manpower in new and emerging areas relevant for State development.
• Catalysing programmes/schemes on professional development to ensure requisite S&T capabilities to facilitate joint programmes & collaborative projects. Suitable career advancement of S&T secretariat in State S&T Councils to ensure retention of experienced personnel as well as attract talented S&T professionals.
• Development of programmes in certain identified key areas/ sectors of relevance to States with the involvement of S&T Councils, concerned Institutions, academia etc.
• Devising system for compilation and regular updating of database on proven and transferable technologies developed in the Institutions/ Laboratories/ State Councils etc. and problems requiring S&T intervention.
• Initiating sizeable technology transfer programmes with State S&T Councils to have visible demonstration effect involving Field Groups and voluntary organisations.
• Initiating multi-sectoral area oriented S&T programmes sectoral technology upgradation programmes particularly in the traditional sectors in rural areas.
• Support for location specific Research & Technology Development and state specific S&T studies/ surveys
• Support for systematic identification of location specific problems and their solution through S&T inputs.
• Support to pilot scale demonstration projects and replication to replicate successful projects of one State S&T Council to other States and demonstrate successful projects of Central S&T Agencies

Annexe-1

Note for supplementaries to Hon`ble Minister, HRD and S&T for the Starred Question No 80 for Answer on 5th March, 2002 (20th position) in Lok Sabha.

Background Note to Question

1. Introduction :

The question has been raised by Shri K.P. Singh Deo, MP (INC), Orissa on `Promotion of Science and Technology`The Question relates to the programmes of Central Governmentto promote science and technology in each State. The Hon`ble Member has sought information regarding existence of any Central scheme to promote science and technology in each State along with physical and financial achievements so far. The Question seeks information specifically as follows :-

(d) Whether the Government have sponsored any Central scheme to promote Science and Technology in each State;

(e) If so, the State-wise achievements made under the scheme, particularly in Orissa during the last three years; and

(f) The funds allocated by the centre for the purpose during the said period, year-wise?

2. DST Scheme for promotion of S&T in States :

Department of Science & Technology, Government of India has been operating a specific scheme for promotion of S&T activities in States. Under this scheme, Department of Science and Technology, Government of India is providing core and project support to State S&T councils in various States and Union Territories to enable them to effectively function in policy formulation, planning, coordination and promotion of S&T activities. As a result of DST`s efforts, State S&T structures have been set up in all the States. During the last three years, DST continued its core support to State S&T councils and initiated a number of location specific demonstration projects and State relevant S&T studies. DST has been also organizing All India / Regional meetings of State S&T councils and Departments of various States to facilitate information exchange and to evolve specific need-based location specific S&T programmes. In such meetings, representatives of Central S&T agencies and departments also present their programmes and opportunities available for funding to various State S&T councils and departments. Department of Science & Technology had organized 11 All India meetings and 10 regional meetings so far. One All India meeting on role of State S&T councils and departments in rural development and one regional meeting of Eastern Region State S&T Councils and Departments in Bhubaneswar, Orissa.
3. DST Programmes for promotion of science and technology in States :

The various programmes implemented by Department of Science & Technology having relevance to various States are given below :-

1. Support to State S&T Councils :

Under this programme, core support is provided annually to all the interested State S&T Councils.Annually around 25 State S&T Councils are financially supported by DST. In addition to the core support, the councils can seek project support from the Department. The Department is playing a pro-active role in mobilizing programmes / projects from various States. (Annexe. - 4)

2. Science and Society Programmes :

Under Science & Society scheme of the Department, the projects having bearing on application of science and technology for societal upliftment, are supported. Under this programme, there are specific schemes aimed at rural development, empowerment of women and weaker sections including tribals. While the support is primarily provided to NGOs, some of the State S&T councils have also been provided support for setting up rural technology parks etc.

3. S&T Entrepreneurship Development :

Under Entrepreneurship Development Programme of the Department, entrepreneurship awareness and training to S&T personnel is provided to promote entrepreneurship in the country. Under the programme, a new scheme entitled, `Technology Business Incubator` has been initiated to promote innovation.

4. Natural Resource Data Management System :
This programme aims to develop methodologies and techniques for operationalising the concept of micro-level planning. Based on the concepts of GIS, the aim is to set up district level resource database, develop spatial decision support system and train potential end users.

5. Science Communication : These programmes are aimed at popularising of science and indigenous technology in the country and stimulation of scientific temper among people and coordination with central, state and other agencies. The major programmes are Childern Science Congress, long term and short term training programme in science communication , quizes etc.

4. Programmes of other Central S&T agencies for promotion of S&T in States :

A number of programmes are being implemented by various Central Ministries / Departments and agencies in various States.

1. Department of Bio-Technology :

The Department of Bio-Technologyhas various programmes for promotion of bio-technology in various States. These programmes relate to seri-biotechnology, medicinal and aromatic plants, tissue culture etc.

2. Department of Scientific and Industrial Research :

Department of Scientific and Industrial Research supports demonstration projects and technology absorption efforts in various industries. This work is supplemented by various need-based technology transfers executed by National Research Development Corporation.

Council of Scientific and Industrial Research has developed a large number of technologies in its various labs. which are relevant to the States. These technologies aim at rural development through application of S&T.

5. Programmes of other Central Scientific Departments / Agencies :

1. Department of Space :

Department of Space, in association with various States, is implementing space applications / utilization programmes based on remote sensing technology. The objective of these programmes is to utilize space capability for addressing the specific developmental needs of various States.

2. Ministry of Information Technology :

Ministry of Information Technology is taking up projects for setting up community information centres, capacity building regarding IT and augmentation of IT facilities at the State Government establishments.

3. Ministry of Non-Conventional Energy :

Ministry of Non-Conventional Energy is undertaking a wide range of programmes, such as solar photovoltaic, small hydro, wind energy etc. with the objective of meeting the rural energy needs.

4. Department of Atomic Energy :

Department of Atomic Energy has taken up few programmes regarding application of nuclear technologies for medical and other developmental activities.

5. Indian Council of Agricultural Research :

ICAR has programmes related to crops management, horticulture, natural resource management, animal sciences and fisheries These programmes are implemented by ICAR through its various centres with the cooperation of concerned State Governments.
10. Indian Council of Medical Research :

ICMR is undertaking various programmes related to medical research through its various research centres.Specific programmes / projects have also been undertaken to address state specific medical problems.

6. Activities of State S&T Councils and Departments :

The State S&T Councils and Departments are the nodal agencies for implementation of S&T programmes in their respective states. The financial resources of State S&T Councils include both state plan grant and grant-in-aid from Central Departments / agencies. The Councils undertake location specific and need-based research, which are of importance to the concerned states. Generally, the portfolio of S&T activities of various states includes science communication, entrepreneurship development, natural resource data management, remote sensing and S&T based societal programmes. The details of activities of State S&T Councils and Departments are given in Annexe.-6. The details of activities of State Council for Science & Technology and Department of Science and Technology, Orissa are given in Annexe.-7.

Annexe-7

Activities of Orissa State S&T Council / Department

(1) Science and Technology Promotion

(i) Funding of Research Projects

Financial support of Rs.50,000/- for one new project provided as first instalment of research grant.

(ii) Support for attending National/International Conference/Workshop /Seminar/Symposium.

Financial support of Rs.1,23,240/- was provided to 10 nos. of Scientists for participating in higher forums of National and International conferences.

(2) S&T Entrepreneurship Development Programme:

For Entrepreneurship Development Training Programmes, four proposals were received from Institute of Entrepreneurship Development, Orissa during 2000-2001 which are under consideration.

(3) Documentation Centre-Cum-Library (DCL) :

The Department has a well-equipped library with Audio Visualfacilities consisting of 78 films on various themes of Science and Technology.

(4) Pathani Samanta Planetarium :

With the object of invoking interest in celestial environment and creating awareness in Astronomy, Astrophysics and Space Science among the people, The Pathani Samanta Planetarium is established at Bhubaneswar.

(5) Institute of Life Science :

The objectives of the Institute are to conduct basic and applied research in frontier areas of Life Sciences, promote interaction amongst scientists, conduct interdisciplinary research, collaborate with teaching and research institutions, to hold symposia, workshops, conferences, provide advance research to M.Sc. students training for Ph.D. degrees.

The following research projects were funded and initiated during recent years

(a) DBT sponsored project on the role of Transcription Factor(s) in p53 gene regulation in breast cancer

(b) Molecular analysis of age-dependent alterations (DBT sponsored)

(c) Productivity and characterization of osmotic stress tolerant transgenetic genotypes for withstandng osmotic stress (DBT sponsored)

(d) Biodiversity assessment of aquatic plants and their conservation in Similipal Biosphere Reserve (DOE sponsored project)

(e) Vector immunity of filarial parasite: Molecular studies in mosquito vectors with reference to development of B.malayi and W.bancrofti.

Significant achievements of the Institute of Life Science during 2000-2001 are as follows:-

1) Restriction Fragment length polymorphism (RFLP) of P-53 gene.
2) Tobacco mediated genetic alterations in oral cancer
3) Anti tumourigenic effect of d-Limonene on NDEA mediated Hepato carcinogenesis
4) Distribution of salinity in the Chilika lake and its influence on the growth and distribution of macrophytes.
5) Role of inorganic ions in salinity tolerance in aquatic plants
6) Alteration in the low variegated anthocyanin pigmentation pattern in Mirabilis by 5-aza-Cytidine inducted demethylation in the genome.
7) To examine the efficacy of anthocyanins as an in situ antioxidant against oxidative stress.
8) Screening of wheat cultivars tolerant to growth at elevated temperature and drought-condition.

(6) Orissa Remote sensing Application Centre :

1) Conducted an integrated study under Integrated Mission for Sustainable Development (IMSD) leading to preparation of data bases in land use, land cover, soil, slope, drainage, watershed, village boundary etc. for drought-prone districts.

2) Identification of suitable areas for ground water development in water scarcity blocks of KBK Districts.

3) A database on the Chillika catchment area and Paradeep area has been created. A database on the wetlands has also been prepared for the whole State.

4) Studies under the mangrove mapping has been undertaken to delineate extent of mangrove forest and the mangrove species.

5) ORSAC is preparing a digital database on the natural resources and other related matters under NRIS.

6) A digital watershed Atlas for the entire state drainage, watersheds, surface waterbodies is under progress.

7) A Costal Zone Management Plan has been prepared for the entire coast of Orissa.

8) ORSAC has pivotal role in disseminating the forecast of potential fishing zones in the costal waters.

9) Districtwise yield estimation for rice for the entire state has been conducted. Acreage estimation for ragi and jute has also been released.

10) ORSAC has used remote sensing satellite based data for identification of drinking water source for 80 sites.

11) ORSAC in collaboration with SAC,Ahmedabad have made arrangements for monitoring the movement of the buses for ten selected long distance bus routes in Orissa.

12) ORSAC has completed a study identifying suitable areas for construction of cyclone shelter in the coastal districts.

13) Installation of Fly-Away Jtermnal in the Film and TV Institute campus Cuttack by ISRO.

14) Sixteen interactive training programmes have been conducted by different departments through GRAMSSSSAT Pilot Project .

15) Direct Reception System (DRS) have been installed in 30 district headquarters and 05 Govt. offices at Bhubaneswar.

(7) Orissa Renewable Energy Development Agency :

The main object of this Agency is to function as the State Nodal Agency for promotion of various Renewable Energy Systems and energy saving devices.

1) National Project on Biogas Development (NPBD)
2) Community/Institutional Biogas Plants (CBP/IBP)
3) National Programme on Improved Chullah (NPIC)
4) Solar Photo-Voltaic Programme
5) Solar Thermal Extension Programme
6) Integrated Rural Energy Planning Programme.
7) Wind Power Projects

Other Activities :

1) OREDA has executed an agreement with IREDA to actas a Business Development Associate to promote schemes for renewable energy. Under this scheme loans to entrepreneurs and manufacturers will be available from IREDA.
2) Energy from Waste:

5 Bio-methanation Project for Nayapalli, BBSR and an incineration unit at Puri has been proposed to MNES.

3) Installation of 25 KWP Grid Interactive power plant :

One 25 Kwp Grid-interactive SPV Power Plant will be installed at Atri Bath Complex for catering to the Power requirements of the complex.

4) Sale Outlet :

One showroom named Aditya Solar Shop, has been oepned in Bhubaneswar for sale of all the devices of Renewable Energy Systems.

5) Fly-Ash Utilization :

A number of seminars and workshops of Fly-ash Utilisation have been organised by OREDA. Seven fly-ash bricks entrepreneurs have been registered under OREDA.

6) Programme on Utilisation of Chilka Weeds

OREDA in collaboration with the Chilka Development Authority has taken up family type Biogas Plant based on Chilka weeds. 75 such plants have been set up.

(8) Institute of Material Science :

The objective of the Institute is to provide facilities in the State for research in the frontier areas of material science and to conduct interdisciplinary research on special materials, their development, optimisation, production and utilisation.

During the year, the following thrust areas of Research have been identified:

i) Biodegradable Plastics.
ii) Utilization and Processing of Soyabean products
iii) Job oriented subject
iv) To provide guidance in research leading to doctoral and postdoctoral work.
v) To provide consultancy to various industry and render technical advice and services to Govt and other institutes.
vi) To interact with S&T institutions at the national and international level.

(9) Orissa Vigyan Academy :

The Academy is the nodal agency to popularise science and to falicitate scientists for their outstanding contribution. The Academy brings out a popular science magazine in Oriya. This magazine has also been printed in Braille script for visually impaired.

(10) Institute of Mathematics and Application :

The institute conducts research in mathematics and its applications and also encourages inter-disciplinary research. The institute organizes mathematics olympiad for popularization of mathematics. The institute has made special attempts to search the rural talent in mathematics.

Annexe-2

GRANT-IN-AID SANCTIONED/RELEASED TO VARIOUS STATES DURING THE YEARS , 1998-99, 1999-2000 and 2000-2001

Name of the Scheme : Assistance for Development of State S&T Councils

(Amount in Lakh Rupees)

S.No	State/UT	1998-99		1999-2000		2000-2001
		Sanct-ioned	Released	Sanct-ioned	Released	Sanct-ioned
1	A.P.	10.5	9.8	11.25	11.25	17.00
2	Ar. Pd.	8.50	8.50	11.55	11.55	14.00
3	Assam	24.90	24.90	27.50	27.50	30.50
4	Bihar	20.00	20.00	22.04	10.64	18.70
5	Goa	16.00	16.00	17.00	17.00	20.00
6	Gujarat	23.75	23.75	-	-	31.00
7	Haryana	-	-	-	10.17	9.25
8	H.P.	26.76	26.50	51.27	47.14	28.00
9	J&K	23.50	23.50	28.72	14.76	
10	Karnataka	27.08	24.20	30.5	31.25	26.50
11	Kerala	17.50	17.50	21.50	21.50	20.50
12	M.P.	36.50	36.50	11.03	6.2	36.00
13	Maharashtra	8.90	8.90	13.70	13.70	11.30
14	Manipur	82.56	49.99	19.95	19.95	24.5
15	Meghalaya	7.60	7.60	7.00	4.05	7.15
16	Mizoram	8.15	8.15	10.0	10.0	11.50
17	Nagaland	-	-	9.65	9.65	-
18	Orissa	16.75	16.75	19.75	19.75	20.39
19	Punjab	30.25	30.25	40.95	37.38	43.00
20	Rajasthan	36.89	31.70	37.5	38.91	39.27
21	Sikkim	95.92	51.62	27.02	23	23.45
22	Tamil Nadu	28.7	15.92	21.35	17.66	21.50
23	Tripura	8.10	8.10	17.5	17.5	19.10
24	U.P.	23.65	23.55	32.8	18.90	27.20

S.No	State/UT	2000-2001
		Released
1	A.P.	17.00
2	Ar. Pd.	14.00
3	Assam	30.50
4	Bihar	27.74
5	Goa	20.00
6	Gujarat	37.25
7	Haryana	9.25
8	H.P.	6.00
9	J&K	
10	Karnataka	28.98
11	Kerala	20.50
12	M.P.	50.75
13	Maharashtra	11.30
14	Manipur	25.88
15	Meghalaya	5.20
16	Mizoram	5.75
17	Nagaland	-
18	Orissa	12.00
19	Punjab	49.00
20	Rajasthan	39.20
21	Sikkim	23.84
22	Tamil Nadu	23.61
23	Tripura	6.80
24	U.P.	35.80

25 W.B. - - 5.00 5.00
26 Andaman - - 7.50 7.50
27 Chandigarh 3.55 3.09 4.24 2.87 4.40 2.72
28 Dadra Nagar - -
29 Daman Diu - - - -
30 Delhi - - - - 9.73 4.50
31 Lakshadweep - - 9.00 9.00
32 Pondicherry - - - - 2.75 2.00

Annexe-3

S&T Plan Outlay for Ninth Plan (1997-2002) Under State Plan

S.No. States/UTs 9th Plan(1997-2002) Outlay 1997-98 B.E. 1997-98 Actual 1998-99 B.E. 1998-99 Actual 99-2000 B.E. 99-2000 B.E. 2000-01 B.E. 2000-01 B.E.

1. A.P. 937.00 125.00 24.00 325.00 312.00 300.00 300.00 56.22

2. Arun.Prad 105.00 23.00 20.00 17.00 16.00 20.00 22.00 223.07 223.07

3. Asasam 1350.00 158.00 17.00 188.00 64.00 185.00 185.00 60.00

4. Bihar 2154.00@ 2700.00 135.00 578.00 172.00 350.00 350.00 300.00 191.00

5. Goa 308.00 40.00 28.00 30.00 28.00 30.00 50.00 65.00 65.00
6. Gujarat 3125.00 437.00 546.00 437.00 546.00 811.00S 811.00S 13075.00! 12000.00

7 Haryana 642.00 135.00 72.00 217.00 81.00 180.00 80.00 150.00 150.00

8. H.P. 600.00 90.00 110.00 150.00+ 141.00 148.00 103.00 146.00

9. J&K 320.00 64.00 30.00 81.00 40.00 604.15 76.80 74.37
10. Karnataka 2500.00 249.00 272.00 238.00 232.00 234.00 252.49 170.00
11. Kerala 7500.00+ 1400.00+ 1203.00+ 1700.00+ 1710.00+1780.00+ 1780.00+ 1885.00+1900.00
12. M.P. 935.00 200.00 100.00 200.00 79.00 200.00 180.00 162.00
13. Maharashtra 885.00 157.00 64.00 397.00 367.00 362.00 362.00 181.30 181.30
14. Manipur 720.00 80.00 60.00 74.00 57.00 85.00 85.00 75.00 226.00
15. Meghalaya 450.00 70.00 49.00 70.00 59.00 93.00 155.00 93.00 93.00
16. Mizoram 291.00 65.00 54.00 74.00 42.00 90.00 90.00 90.00 90.00
17. Nagaland 400.00 29.00 18.00 25.00 19.00 225.00 221.00 17.00 37.00
18. Orissa 1655.00 283.00 201.00 300.00 768.00 526.00 404.48 215.68 200.76
19. Punjab 3619.00 150.00 25.00 303.00 43.00 306.00 310.19 138.70
20. Rajasthan 1051.00 250.00 130.00 235.00 188.00 185.00 105.00 100.00
21. Sikkim 800.00 50.00 50.00 58.00 58.00 87.00 78.00 70.00
22. Tamil Nadu 2010.00 156.00 232.00 194.00 264.00 177.00 216.93 219.23 231.63
23. Tripura 222.00 40.00 43.00 37.00 38.00 43.00 43.61 27.81 31.81
24. U.P. 3080.00 715.00 329.00 831.00 874.00 1051.00 205.00 462.00 400.00
25. W. Bengal 988.01 221.00 124.00 265.00 218.00 270.00 170.00 3237.00

Total States 36647.01 7887.00 3936.00 7024.00 6416.00 8342.15 6636.50 21293.38

Uts

1. A&N Islands 199.85 28.26 22.93 66.00 25.19 60.00 14.00 20.00

2. Chandigarh 37.00 13.00 3.75 7.95 5.72 28.00 28.00 18.00

3. D&N Haveli 30.00 6.00 4.75 7.00 6.94 7.00 7.00 6.00

4. Delhi 15.00 1.00 6.07 3.00 13.63 5.00 5.00 250.00

5. Daman & Diu 47.00 14.00 8.45 15.00 8.17 9.00 9.00 + 22.00
6. Lakshadweep 643.81 83.05+ 27.73 82.00+ 28.22 35.56 35.56 35.57 30.91

7 Pondicherry 60.00 10.00 5.25 35.00 19.87 35.00 35.00 35.00 25.55
Total Uts. 1032.66 155.31 78.93 215.95 107.74 179.56 133.56 386.57

Grand Total 37679.67 8042.31 4014.93 7239.95 6523.74 8521.71 6770.06 21679.95

+ Including Ecology and Environment

@ Indicate Fig. Excluding outlay of Rs.12346.00 lakh for Technical Education
S Indicate fig. Excluding outlay of Rs.3700.00 lakh for Information Technology
! Including outlay for Information Technology & Education deptt.

Annexe-5

Significant Achievements under scheme on ` Assistance for development of State Councils for Science & Technology`

Achievements during last three years

The Department plays a catalytic role by facilitating the State Governments in establishing and developing the State Councils on S&T and by providing core support and support for location specific R&D and demonstration projects. Having set up State Councils in all the States and UTs , State S&T Councils and DST are now initiating programmes where resources and technologies are being pooled together to have visible impact.
In order to encourage and promote science and technology activities in the States and UTs, the Department of Science and Technology has been operating a scheme entitled, `Assistance for Development of State Councils on Science and Technology` since 1980 . The main objective of the scheme is to assist all the States/ UTs to set up State Councils on Science and Technology which in turn could help the States in formulation, planning, coordination and promotion of S&T activities within their respective States. As a result of catalytic role played by DST in close cooperation with the Planning Commission and States / UTs , State S&T structures have been set-up in all the States. (except the three newly constituted States)

During the ninth plan , the horizons of the scheme were considerably expanded and the character of the `State Councils Scheme` of DST underwent a major change. All the objectives of the scheme aimed at upliftment of socio-economic conditions of States were activated. DST assumed a pro-active role and ventured into programme based cooperation with State Councils to address location specific and region specific problems while continuing with the earlier catalytic and facilitator roles with improvements, wherever required.

This `phase change` was successfully operationalised and a wide range of S&T projects, programmes and activities relevant to States were identified, conceived and supported.

1. Demonstration Projects
• Micro Hydel Projects initiated at Nagaland, Manipur and Sikkim
• Reverse Osmosis Plants being set up for hard/ brackish/ saline water in Rajasthan, Gujarat and A&N Islands.
• Mentha Distillation Plants being set up in U.P.
• Upliftment of small and marginal farmers being achieved through application of hydrams in H.P.

2. Location specific R&D and Technology Development
• All India thematic Meeting on `S&T in Location Specific Research` organised to give special impetus to this area.
• Location Specific R&D projects on sustainable cropping of Ginseng in Manipur and control of poultry diseases at Namakkal, Tamilnadu initiated.
• Technology Development projects on energy efficient cardamon drier at Sikkim and development of fishing crafts and gears for the wetlands of Manipur.

3. Replication of success models
• Pollution Control Units for Cupola Furnaces being set up at U.P. and Bihar.
• Solar Passive Demonstration Unit supported at Manipur

4. S&T Studies and Surveys

• Studies on fishing crafts and gears in Manipur led to development of improved prototypes of fishing crafts and gears.
• `Atlas of location Specific Problems` in Assam prepared.
• Pilot studies on low cost water filter completed.

5. Jai Vigyan Science & Technology Mission entitled `Area Development Mission for Andaman & Nicobar Islands through Science & Technology.`

• 12 projects identified under the broad areas of HRD, Fisheries, Medicinal plants, Housing, Energy, Food processing, Water management and environment in view the specific requirements of A&N Islands.
• Project on Bio-diversity in A&N Island initiated.

Annexe-6

Activities and Role of State S&T Councils

The role identified for these State Councils for Science and Technology is as under:

(i) Formulation, planning, coordination and promotion of S&T activities within their respective States

(ii) Preparation of state S&T Plans

(iii) Preparation of state S&T Plans

(iv) Compilation and dissemination of S&T information

(v) Take up programmes relating to promotion and utilisation of S&T in the States (e.g. Popularisation of Science, Rural Development, assisting the National Technology Missions, use of Remote Sensing Technology, etc.) Government which were of direct relevance to the development of the States and also exchange experiences with other state governments.

Department of Science & Technology (TT Division-State S&T)

Subject: Lok Sabha Starred Q. No. 80 (20th position) to be answered on 5th March, 2002.

The question raised by Shri K.P. Singh Deo , MP (INC) reads as follows:-

(a) Whether the Government have sponsored any Central scheme to promote Science and Technology in each State;

(b) If so, the State-wise achievements made under the scheme, particularly in Orissa during the last three years; and

(c) The funds allocated by the centre for the purpose during the said period, year-wise?

2. It may kindly be seen that the question focuses on promotion of Science and Technology in the States. The question seeks whether Centre has sponsored any Central scheme to promote Science and Technology in each State. Further details of the achievements made under this scheme, particularly in Orissa have also been sought. Lastly, the question seeks the funds allocated by the Centre for the purpose.

3. In order to answer the said Parliament Question, information has been sought from thescientific departments namely DSIR (and CSIR), DBT, MNES, ICMR, ICAR, MOEn &F, DOD, DOS , DAE and various divisions of DST. Information has also been sought from Orissa State Council/ Department of Science and Technology.

4. Based on the information received from various departments as well as the information available in- house with State S&T Unit, the draft answer to the said Parliament Question is placed below for approval of Hon`ble Minister for HRD, S&T and Ocean Development. A note for supplementaries is also placed for kind reference please.